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(54) CATION EXCHANGE MEMBRANE, ELECTRODIALYTIC APPARATUS USING THE SAME AND ELECTRODIALYTIC METHOD

(57)Abstract:

PURPOSE: To improve heat stability and stability against an acid, an alkali and an oxidizing agent by forming a cation exchange membrane from a specific aryl ether polymer wherein a sulfonic acid derivative is supported by an aryl ring.

CONSTITUTION: In a cation exchange membrane constituted of an aryl ether polymer, at least a part of the aryl ring thereof supports a sulfonic acid derivative $-SO_3M$ (M is H^+ or metal ions) and at least a plurality of aromatic rings are bonded to two adjacent rings present in a polymer chain through $-O-$ and the adjacent rings are a part of a repeating unit $Ph-X-Ph$ (wherein Ph is paraphenylene, X may be same to or different from X in different repeating unit $Ph-X-Ph$ and is a group SO_2 , CO or a direct bond). As a useful aryl ether polymer, one containing a group represented by formula I (wherein X is a group SO_2 or a group CO) and a group represented by formula II (wherein Y is a group SO_2 or a group CO) and supporting the sulfonic acid derivative by all of residues (formula III) is designated.

